

CLAIMS:

1. A wiring receiver that may be mounted to a vehicle without the use of tools, the receiver comprising:

a plurality of terminals for transferring a plurality of electrical signals;
a main body substantially housing the terminals; and
a contact surface operable to contact the main body and rotate about at least a portion of the main body, thereby mounting the main body to the vehicle.

2. The receiver of claim 1, wherein the main body further includes a substantially cylindrical receptacle that houses the terminals.

3. The receiver of claim 2, wherein the contact surface rotates about the cylindrical receptacle.

4. The receiver of claim 1, wherein the contact surface engages protrusions extending from the main body.

5. The receiver of claim 1, wherein the contact surface is integral with a substantially conical cover that further includes a cable seal.

6. The receiver as set forth in claim 5, wherein the cable seal includes a cylindrical portion having exterior threads, a resilient conical grommet sized to fit snugly into the cylindrical portion, and an interiorly threaded end-cap for holding the grommet in place

7. The receiver as set forth in claim 1, wherein the contact surface includes a plurality of substantially arcuate slots.

8. The receiver as set forth in claim 7, wherein each slot includes an enlarged opening at one end.

9. The receiver as set forth in claim 7, wherein the slots may be slid

around protrusions extending from the main body in order to secure the cover plate to the main body, thereby mounting the receiver to the vehicle.

10. A wiring receiver that may be mounted on a towing vehicle without the use of tools, the receiver comprising:

a plurality of terminals for transferring a plurality of electrical signals from the towing vehicle to a towed vehicle;

a main body substantially housing the terminals and having a first contact surface facing a first direction and a plurality of protrusions extending from the contact surface in the first direction, the protrusions being arranged to be inserted through a traditional mounting bracket of the towing vehicle; and

a cover operable to engage the protrusions, rotate about at least a portion of the main body, and slide along the protrusions, thereby mounting the main body to the vehicle.

11. The receiver as set forth in claim 10, wherein the cover includes a cable seal operable to substantially seal to a cable of the towing vehicle.

12. The receiver as set forth in claim 11, wherein the cable seal includes a cylindrical portion having exterior threads, a resilient conical grommet sized to fit snugly into the cylindrical portion, and an interiorly threaded end-cap for holding the grommet in place.

13. The receiver as set forth in claim 10, wherein the cover includes a second contact surface having a plurality of slots therein and facing a second direction which is substantially opposite to the first direction.

14. The receiver as set forth in claim 13, wherein the slots are substantially arcuate.

15. The receiver as set forth in claim 13, wherein the slots each include an enlarged opening at one end.

16. The receiver as set forth in claim 13, wherein at least a portion of the bracket is sandwiched between the contact surfaces of the main body and the

cover.

17. A wiring receiver that may be mounted on a towing vehicle without the use of tools, the receiver comprising:

a plurality of terminals for transferring a plurality of electrical signals from the towing vehicle to a towed vehicle;

5 a main body substantially housing the terminals and having a first contact surface facing a first direction and having a plurality of slots therein; and

10 a cover having a plurality of protrusions extending in a second direction, arranged to be inserted through a traditional mounting bracket of the towing vehicle and operable to engage the slots, thereby mounting the main body to the vehicle.

18. The receiver as set forth in claim 17, wherein the cover includes a cable seal operable to substantially seal to a cable of the towing vehicle.

15 19. The receiver as set forth in claim 18, wherein the cable seal includes a cylindrical portion having exterior threads, a resilient conical grommet sized to fit snugly into the cylindrical portion, and an interiorly threaded end-cap for holding the grommet in place.

20 20. The receiver as set forth in claim 17, wherein the slots are substantially arcuate.

25 21. The receiver as set forth in claim 17, wherein the slots each include an enlarged opening at one end.

30 22. The receiver as set forth in claim 17, wherein the cover includes a second contact surface facing the second direction which is substantially opposite to the first direction.

23. The receiver as set forth in claim 22, wherein at least a portion of the bracket is sandwiched between the contact surfaces of the main body and the cover.

24. A wiring receiver that may be mounted on a towing vehicle without the use of tools, the receiver comprising:

a plurality of terminals for transferring a plurality of electrical signals from the towing vehicle to a towed vehicle;

a main body arranged around the terminals and including -

a forward facing contact surface,

a cylindrical receptacle substantially housing the terminals, and

a plurality of protrusions extending forwardly from the contact surface, the protrusions arranged to be inserted through a traditional mounting bracket of the towing vehicle;

a substantially conical cover operable to mate with the main body and including -

a rear facing contact surface having arcuate slots operable to slide around the protrusions, thereby mounting the main body to the vehicle, and

a cable seal operable to substantially seal to a cable of the towing vehicle; and

a resilient gasket for placement between the main body and the bracket.

25. The receiver as set forth in claim 24, wherein the slots each include an enlarged opening at one end.

26. The receiver as set forth in claim 24, wherein at least a portion of the bracket is sandwiched between the contact surfaces of the main body and the cover.

27. The receiver as set forth in claim 24, further including a second gasket for placement between the cover and the bracket.